

## A New Species of the Genus *Paramesotriton* (Amphibia: Caudata) from Guangxi and a Comparison with *P. guangxiensis*

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**Abstract.** -A new species of *Paramesotriton* is described from Guangxi Zhuang Autonomous Region. This species is characterized by tips of the fore limbs which exceed the anterior margin of the eyes to a greater extent and granular warts that are much more dense than observed in *P. guangxiensis*.

**Key Words:** Amphibia, Caudata, China, Guangxi, *Paramesotriton*.



FIG. 1. Holotype of *Paramesotriton fuzhongensis*, GMC 81-021 from Gupo Hill, Wanggao (24° 35'N 111° 25'E), Guangxi Autonomous Region, China.

### *Paramesotriton fuzhongensis* sp. nov.

**Holotype:** GMC 81-021 (Fig. 1), an adult male from Gupo Hill, Wanggao (24°35'N 111°25'E), Zhongshan Xian (county), Guangxi Autonomous Region, China, altitude 400 m. The specimen was collected on August 12, 1981 by Chaoliang Lai and is deposited in Guangxi Medical College collection (GMC).

**Allotype:** GMC 81-022 an adult male was collected with the holotype.

**Paratype:** Two males GMC 86-006 & 86-009 and three females GMC 86-004,

86-005, & 86-007 were sent by Fuchwan County Science and Technology Committee. The specimens were collected from Xilin Hill, Fuchwan Xian (county) [24°50'N 111°16'E], Guangxi Autonomous Region, China, altitude 500m. The exact date and collector are unknown.

**Diagnosis:** This new species closely resembles *Paramesotriton guangxiensis* Huang, Tang and Tang, but differs from the latter in the following ways: 1) When the fore limbs are drawn forward, their tips exceed the anterior margin of the eyes to a greater extent. 2) When the fore and hind limbs are drawn simultaneously along the flank toward the middle, the palm and

TABLE. 1. Measurements of the Holotype, Allotype, and Paratypes of *Paramesotriton fuzhongensis*. The mean given is only for the Paratypes

	Holotype Male GMC 81-021	Allotype Male 81-022	Paratype Male 86-006	Paratype Male 86-009	Paratype Female 86-004	Paratype Female 86-005	Paratype Female 86-007	mean	mm/SVL
Snout-vent length	88	75	82	81	80	69	73	77.0	-
Head length	27	24	23	23	34	21	21	22.3	0.29
Head width	20	17	16	17	16	15	14	15.4	0.20
Snout length	09	08	07	08	08	07	08	07.5	0.10
Internasal space	06	05	05	05	05	04	04	04.4	0.06
Diameter of eye	06	05	05	05	05	04	05	04.3	0.06
Interorbital space	08	07	07	07	07	07	07	06.9	0.09
Axilla-groin	39	32	35	34	37	33	34	34.6	0.45
Fore limb length	29	25	25	27	26	20	22	24.0	0.31
Hind limb length	30	25	27	28	27	22	23	25.4	0.33
Tail length	78	58	66	78	79	65	65	70.6	0.92
Tail-base width	10	07	09	09	10	08	09	08.9	0.12
Tail height	14	12	12	12	11	10	10	10.9	0.14

tarsus are overlapping. 3) The granular warts have a higher frequency and density. 4) The coloration differs between the two species.

**Description of holotype:** Total length 166 mm, snout-vent length (SVL) 88 mm; head depressed slightly, longer than broad; slightly ladder shaped in dorsal aspect, and hind region wider than fore; snout apparently longer than diameter of eye, with tip even and slightly bent, projecting far beyond anterior margin of lower jaw, with canthus rostralis prominent; loreal region slopes somewhat outward; top of head has two ridges behind eyes, reaching back of jugular plica and has nostrils lateral, on tip of snout that are not seen in dorsal view; oral gap exceeds posterior margins of eyes; upper labial fold is prominent and more developed under eyes; vomerine teeth V-shaped; tongue ovalform, lateral margins free, adhering to floor of mouth; lengths of fore and hind limbs nearly equal, with hindlimbs stouter and tip of fore-limb reaching midway between nostril and eye; adpressed limbs overlap along flank palm and tarsus; holotype has four fingers and five toes, very expanded and unwebbed, with blunt, round tips; first finger and toe very small; tail is shorter than SVL with thick base that gradually becomes laterally compressed, nearly a thin sheet at end; cloacal walls swollen and protuberant with many layers of papillae.

Skin very rough with prominent, protuberant dorsal ridge, anterior end separates and reaches posterior margin of the eyes; irregular costal grooves present on flanks and anterior part of tail; dense granules or warts cover dorsum of head, loreal region, throat, dorsum of body, flank, anterior part of tail and dorsal surfaces of limbs; large dorsolateral warts which form two longitudinal ridges; labial folds, belly, ventral surfaces of limbs, fingers, toes, palms, and tarsus smooth. Measurements of the new species are listed in Table 1.

In life, dorsum of head, back, lateral area of body and dorsal surface of limbs olive or have small black spots; anterior part of tail light brown, fading at end; sides have grayish-white stripes or various black spots; throat and belly light pale with irregular reddish orange spots that are smaller and more dense on throat; ventral caudal fin from tip of tail, to and including vent, and ventral surfaces of limbs reddish orange. In preservative color fades to whitish-gray.

Tail of female longer and lower than male; reddish orange spots on throat larger than male; vent of female shorter than that of male, not swollen, no papillae.

**Habitat:** The new species is restricted to streams at mid-slope where a broad leafed forest is present. Adults are usually found under rocks, and sometimes ashore. This



FIG. 2. Distribution of *Paramesotriton fuzhongensis* and *Paramesotriton guangxiensis* in Guangxi Autonomous Region China.

species is sympatric with *P. caudopunctatus* on Xilin Hill, Fuchuan Xian (County).

**Distribution:** *Paramesotriton guangxiensis* is known only from the type locality of 478 m, Paiyang mountain, Mingjiang (22°09'N 107°12'E), Ningming County, Nanning Prefecture, Guangxi Zhuang Autonomous Region, China. The new species *P. fuzhongensis* ranges from Fuchuan (24°50'N 111°16'E) south by southeast to Wanggao (24°35'N 111°25'E). Both localities are in Wuzhou Prefecture, Guangxi Zhuang Autonomous Region, China. Mingjiang, where *P. guangxiensis* occurs, is in the extreme southwestern portion of Guangxi

Autonomous Region. In contrast, the two sites where the new species is found are in the northeastern part of Guangxi Autonomous Region. These two areas are separated by the Xi River system which drains most of Guangxi Zhuang Autonomous Region (Fig.2).

**Comparisons:** The new species differs from *P. guangxiensis* in a number of morphological traits besides those listed in the diagnosis. I have made additional comparisons as follows:

The head of the new species is longer and narrower (head width/head length = 69.5 %), and broader in *P. guangxiensis* (head width/head length = 78.2 %) [Fig. 3]. The tail of the new species is longer and

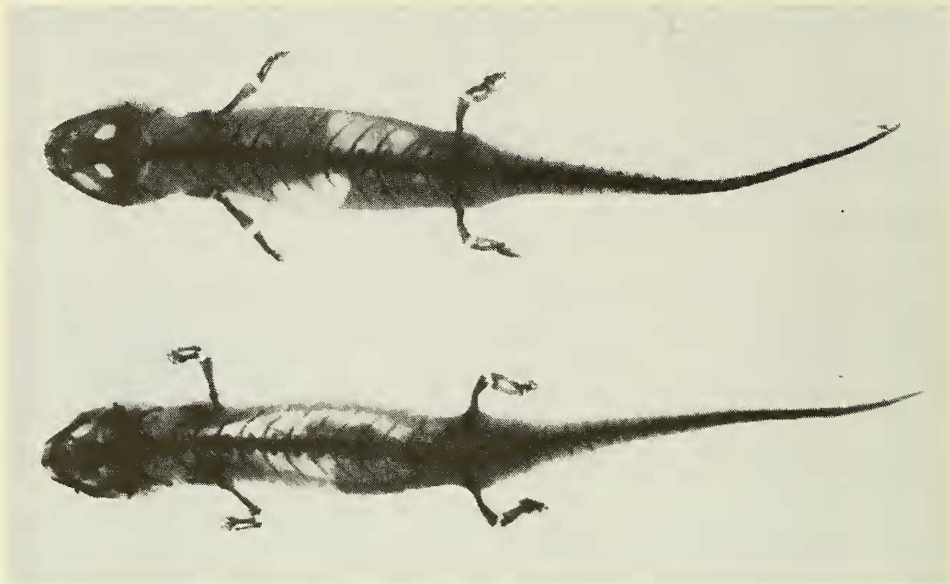


FIG. 3. X-Ray of *Paramesotriton fuzhongensis* (above) and *Paramesotriton guangxiensis* (below).

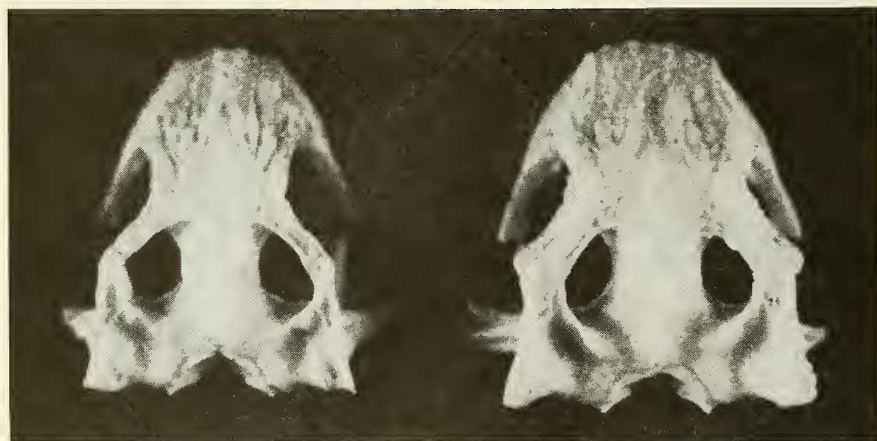


FIG. 4. Skulls of *Paramesotriton fuzhongensis* (left) with slender fronto-squamosal arch, and *Paramesotriton guangxiensis* (right).

lower (tail length/SVL = 91.7 %, tail height/SVL = 14.0 %), and is shorter and higher in *P. guangxiensis* (tail length/SVL = 82.5 %, tail height/svl = 19.3 %). The axilla to groin ratio is longer in the new

species (axilla to groin/SVL = 44.9 %) than in *P. guangxiensis* (axilla to groin/SVL = 41.0 %). The data for *P. guangxiensis* are according to Huang, Tang and Tang (1983).

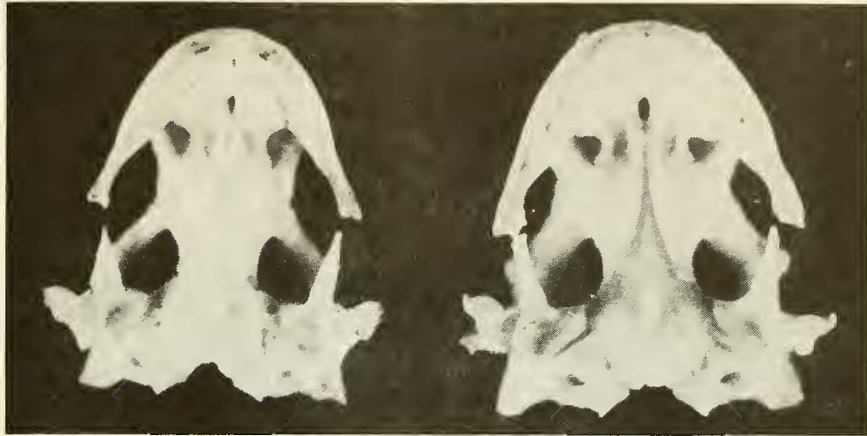


FIG. 5. Skulls of *Paramesotriton fuzhongensis* (left) with maxillary separated from the pterygoid, and *Paramesotriton guangxiensis* (right).

The fronto-squamosal arch of the new species is slender and the outer edge is almost a straight line. It is larger and stout, with the outer edge nearly a right angle, in *P. guangxiensis* (Figs. 3 & 4). The maxillary of the new species is separated from the pterygoid by a large interval, while it almost touches the anterior tip of the pterygoid in *P. guangxiensis* (Fig. 5). The notch of nares internus on the vomer in the new species is shallow and vertical. It is

deeper and transverse in *P. guangxiensis* (Fig. 5). The trunk vertebrae of the new species are slender and the ribs direct more backward; the trunk vertebra are stout and the ribs direct more laterally in *P. guangxiensis* (Fig. 3). The seventeenth vertebra (third caudal vertebra) begins to have a hemal canal in the new species, instead of the sixteenth vertebra (second caudal vertebra) in *P. guangxiensis*. The hyoid apparatus in the two species differs in appearance, the ceratohyal being apparently shorter in the new species (Fig. 6).

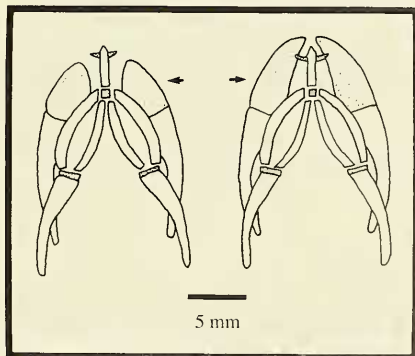


FIG. 6. Hyoid apparatus of *Paramesotriton fuzhongensis* (left), and *Paramesotriton guangxiensis* (right). Arrows show ceratohyal.

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<sup>1</sup> Currently, the name E. Djao is written E. Zhao (ed.).

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